We claim:

1. In a communication system in which data is communicated to a receiving station on a communication link susceptible to distortion, an improvement of apparatus for facilitating recovery of the data, communicated pursuant to a frequency division multiplexing scheme as a first data part communicated upon a first sub-band and at least a second data-part communicated upon at least a second sub-band, the adjacent ones of the first and at least second sub-bands partially overlapping in frequency, said apparatus comprising:

a data-part isolating a filter coupled to receive indications of values of the data, once received at the receiving station, said data-part isolating filter for forming separate filtered values within frequency ranges defining each of the first and at least second sub-bands, respectively;

a pre-filter sample coupled to receive the separate filtered values formed by said data-part isolating filter for each of the first and at least second sub-bands, said pre-filter sampler for sampling the separate filtered values applied thereto at sampling rates causing frequency-shifting of selected portions of each of the separate filtered values to out-of-bound frequency ranges; and

a pre-filter rejection filter coupled to said pre-filter sampler, said pre-filter rejection filter for rejecting the selected portions of each of the separate filtered values frequency-shifted by said pre-filter sampler and for forming therefrom filtered representations of each of the first and at least second data-parts.

2. The apparatus of claim 1 wherein the separate filtered values formed by said data-part isolating filter are each formed of an intended sub-band component and interfering, adjacent sub-band components.

3. The apparatus of claim 1 wherein data-parts communicated upon each of the first and at least second sub-bands is formatted into a data-portion and training-portion and wherein said apparatus further comprises an Impulse Response (IR) estimator, said Impulse Response estimator for estimating an Impulse Response of the communication link responsive to values of the training-portion of the data parts.

4. The apparatus of claim 3 wherein said Impulse Response (IR) estimator estimates a separate impulse response for each of the first and at least second sub-bands.

5. The apparatus of claim 4 wherein said pre-filter sampler comprises an anti-causal filter.

6. The apparatus of claim 4 wherein said pre-filter sampler comprises a Finite Impulse Response (FIR) filter.

7. The apparatus of claim 4 wherein said pre-filter sampler performs temporal whitening of the indications of the values of the data applied thereto.

8. The apparatus of claim 1 wherein said pre-filter rejection filter comprises a Finite Impulse Response (FIR) filter.

9. The apparatus of claim 1 wherein said pre-filter rejection filter comprises a causal filter.

10. The apparatus of claim 1 wherein said pre-filter rejection filter comprises a passband filter exhibiting passbands at each of the first and at least second sub-bands

11. The apparatus of claim 1 wherein said pre-filter sampler utilizes Maximum Sequence Estimation (MSE) to determine filter coefficients determinative of operation thereof to cause the frequency-shifting of the selected portions of each of the separate filtered values.

12. The apparatus of claim 1 wherein the communication system comprises a radio communication system, wherein the communication link comprises a radio link, wherein the distortion comprises fading, and wherein the filtered representations of each of the first and at least second data-pats are substantially orthogonal to one another.

13. The apparatus of claim 1 further comprising a frequency translator coupled to receive the filtered representations of each of the first and at least second data-parts, said frequency translator for translating the filtered representations to selected frequency-offsets.

14. The apparatus of claim 1 further comprising a Fourier Transformer coupled to receive indications of the filtered representations formed by said pre-filter rejection filter, said Fourier Transformer for transforming the indications of the representations of the representations between a frequency domain and a time domain.

15. In a method for communicating in a communication system in which data is communicated to a receiving station on a communication link susceptible to distortion, an improvement of a method for facilitating recovery of the data, communicated pursuant to a frequency division multiplexing scheme as a first data part communicated pursuant to a frequency division multiplexing scheme as a first data-part communicated upon a first sub-band and at least a second data-part communicated upon at least a second sub-band, adjacent ones of the first and at least second sub-bands partially overlapping in frequency, said method comprising:

forming, responsive to indications of values of the data once received at the receiving station, separate filtered values within frequency ranges defining each of the first and at least second sub-bands respectively;

sampling the separate filtered values applied thereto at sampling rates causing frequency-shifting of selected portions of each of the separate filtered values applied thereto at sampling rates causing frequency-shifting of selected portions of each of the separate filtered values to out-of-bound frequency ranges; and

rejecting the selected portions of each of the separate filtered values of the frequency-shifted to the out-of-bound frequency ranges, thereby forming filtered representations of each of the first and at least second data-parts.

16. The method of claim 15 further comprising the operation, prior to said operation of forming, of:

modulating the data into the first part and at least the second part at frequencies, respectively, at the first sub-band and at least at the second sub-band, that partially overlap theretogether; and

sending the first and at least second data parts upon the communication link to the receiving station.

17. The method of claim 16 wherein the first and at least second data parts are formatted into data-portions and training-portions.

18. The method of claim 17 further comprising the operation of estimating an Impulse Response of the communication link.

19. The method of claim 15 wherein said operation of sampling temporally whitens the indications of the values of the data.

20. The method of claim 19 further comprising the operation of performing maximum sequence estimation to determine operational parameters by which to carry out said operation of sampling.